



6BC5

# SHARP-CUTOFF PENTODE

MINIATURE TYPE

Useful at Frequencies up to 400 Mc

6BC5

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage. . . . . 6.3 . . . . . ac or dc volts

Current. . . . . 0.3 . . . . . amp

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield <sup>o</sup>	
<b>Pentode Connection:</b>			
Grid No.1 to plate . . .	0.030 max.	0.020 max.	$\mu\mu\text{f}$
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	6.5	6.6	$\mu\mu\text{f}$
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	1.8	2.6	$\mu\mu\text{f}$

**Triode Connection, Grid No.2 connected to plate:**

Grid No.1 to plate and grid No.2. . . . .	2.5	2.5	$\mu\mu\text{f}$
Grid No.1 to cathode & grid No.3 & internal shield, and heater . .	3.9	4.0	$\mu\mu\text{f}$
Plate and grid No.2 to cathode & grid No.3 & internal shield, and heater . .	3.0	4.3	$\mu\mu\text{f}$

### Mechanical:

Mounting Position. . . . . Any

Maximum Overall Length . . . . . 2-1/8"

Maximum Seated Length. . . . . 1-7/8"

Length, Base Seat to Bulb Top (Excluding tip). . 1-1/2"  $\pm$  3/32"

Maximum Diameter . . . . . 3/4"

Bulb . . . . . T-5-1/2

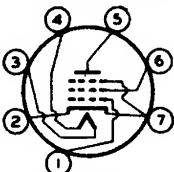
Base . . . . . Small-Button Miniature 7-Pin (JETEC No.E7-1)

Basing Designation for BOTTOM VIEW . . . . . 7BD

Pin 1 - Grid No.1

Pin 2 - Cathode,  
Grid No.3,  
Internal  
Shield

Pin 3 - Heater



Pin 4 - Heater

Pin 5 - Plate

Pin 6 - Grid No.2

Pin 7 - Same as  
Pin 2

<sup>o</sup> With external shield JETEC No.316 connected to cathode.

← indicates a change.

MAR. 1, 1955

TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA

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## SHARP-CUTOFF PENTODE

AMPLIFIER - Class A<sub>1</sub>

## Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. . . . .	300 max.	volts
GRID-No.2 (SCREEN) SUPPLY VOLTAGE. . . . .	300 max.	volts
→ GRID-No.2 VOLTAGE. . . . .	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value. . . . .	0 max.	volts
PLATE DISSIPATION. . . . .	2 max.	watts
→ GRID-No.2 INPUT:		
For grid-No.2 voltages up to 150 volts . . . . .	0.5 max.	watt
For grid-No.2 voltages between 150 and 300 volts. . . . .	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	90 max.	volts
Heater positive with respect to cathode. . . . .	90 max.	volts

## Typical Operation and Characteristics:

Plate Voltage. . . . .	100	125	250	volts
Grid-No.2 Voltage. . . . .	100	125	150	volts
Cathode-Bias Resistor. . . . .	180	100	180	ohms
Plate Resistance (Approx.) . . . . .	0.6	0.5	0.8	megohm
Transconductance . . . . .	4900	6100	5700	μmhos
Grid-No.1 Voltage (Approx.) for plate current of 10 μamp . . . . .	-5	-6	-8	volts
Plate Current. . . . .	4.7	8	7.5	ma
Grid-No.2 Current. . . . .	1.4	2.4	2.1	ma

AMPLIFIER - Class A<sub>1</sub>

Triode Connection - Grid No.2 Connected to Plate

## Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. . . . .	300 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value. . . . .	0 max.	volts
PLATE & GRID-No.2 DISSIPATION (TOTAL). . . . .	2.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	90 max.	volts
Heater positive with respect to cathode. . . . .	90 max.	volts

## Typical Operation and Characteristics:

Plate Voltage. . . . .	180	250	volts
Cathode-Bias Resistor. . . . .	330	820	ohms
Amplification Factor . . . . .	42	40	
Plate Resistance (Approx.) . . . . .	6000	9000	ohms
Transconductance . . . . .	6000	4400	μmhos
Plate & Grid-No.2 Current (Total). . . . .	8	6	ma

→ Indicates a change.

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